

What is claimed is:

1. A barrier arrangement, such as for the control of traffic, said arrangement comprising:

5 an elongate and generally tubular housing mounted in a generally vertical manner within the ground so that an upper end thereof is substantially flush with the ground surface;

10 an elongate post disposed generally coaxially within said housing and telescopingly movable relative thereto between an uppermost position wherein said post extends upwardly from said upper end of said housing and above the ground surface and a lowermost position wherein said post is disposed substantially completely within said housing and beneath the ground surface; and

15 a remotely-actuable drive mechanism for moving said post between said uppermost and lowermost positions, said drive mechanism including an elongate and generally vertically oriented rotatable drive shaft having a smooth outer surface, and a block-like member disposed in clamping engagement with said smooth outer surface and non-movably fixed to said post, wherein rotation of said drive shaft causes displacement of said block-like member and said post relative to and along said drive shaft to move said post into one of said uppermost and lowermost positions.

2. The arrangement of Claim 1 wherein said drive shaft defines an axis of rotation and is disposed generally coaxially within a hollow interior of said post and said block-like member mounts thereon a plurality of roller bearings which contactingly engage said outer surface of said drive shaft, wherein upon application of an abrupt and downwardly directed axial force to an upper end of said post during upward movement thereof, said roller bearings slip relative to said drive shaft to

permit downward movement of said post and said block-like member relative thereto.

3. The arrangement of Claim 2 wherein said block-like member includes a pair of blocks disposed in opposed relation with one another along opposite sides of said drive shaft, said blocks being fastened to one another in an adjustable manner to permit variation of the clamping force by said block-like member on said drive shaft.

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4. The arrangement of Claim 1 including an annular plate-like cover mounted on said upper end of said housing which is substantially flush with the ground surface and having an inner periphery which defines an opening through which said post passes during movement into or out of said housing, and an annular seal member mounted adjacent said inner periphery and in a surrounding manner relative to said post to prevent entry of water and debris into said housing.

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5. The arrangement of Claim 4 wherein said opening has a diameter which is substantially greater than an outer diameter of said post such that a gap is defined therebetween which is traversed by said seal member, said seal member being flexible and maintaining contact with said post at substantially all times.

6. The arrangement of Claim 1 wherein said housing includes outer and inner elongate and generally coaxially oriented tubes, said post being disposed generally coaxially within said inner tube when in said lowermost position, and said post is tubular and said drive shaft is disposed substantially coaxially therewithin.

7. The arrangement of Claim 6 wherein said post has a lower end mounting a hub thereon, said block-like

member being fixed to a lower surface of said hub, said drive mechanism including an electric motor disposed within a lower end of said inner tube and said drive shaft having a lower end which is non-rotatably coupled  
5 to an output shaft of said motor.

8. The arrangement of Claim 7 wherein said hub mounts thereon a permanent magnet, and a pair of Hall-effect switches are mounted on said inner tube which  
10 sense the magnetic field emitted by said magnet when said post is in said uppermost and lowermost positions.

9. The arrangement of Claim 6 wherein an annular wiper is fixed to said post in surrounding relation with  
15 said outer surface of said drive shaft to remove debris accumulated on said outer surface during movement of said post relative thereto.

10. The arrangement of Claim 1 wherein said post  
20 defines a generally hollow interior and said drive shaft is disposed within said interior, said post moving in a telescoping manner relative to drive shaft during travel between said uppermost and lowermost positions so that an upper end of said drive shaft is oriented at a base of  
25 said post when in said uppermost position, said upper end of said drive shaft mounting thereon a lighting arrangement which when energized illuminates said post from within said hollow interior thereof when in said uppermost position.

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11. The arrangement of Claim 1 wherein said post defines a generally hollow interior and said drive shaft is disposed within said interior, said post moving in a telescoping manner relative to said drive shaft during  
35 travel between said uppermost and lowermost positions so that an upper end of said drive shaft is oriented within

and adjacent a top end of said post in said lowermost position and adjacent said upper end of said housing, said upper end of said drive shaft mounting thereon a heating unit which when energized prevents seizure of  
5 said post within said housing during harsh weather conditions.

12. A retractable pylon arrangement comprising:  
an elongate and generally upright cartridge embedded  
10 within an opening in the ground so that an uppermost end thereof is substantially level with the ground surface;  
an elongate and generally cylindrical pylon disposed in a telescoping manner within said housing and movable between an extended position wherein said pylon is  
15 cantilevered upwardly from the ground and a retracted position wherein said pylon is disposed within said cartridge and beneath the ground surface;  
a remotely-controlled drive mechanism for moving said post between said extended and retracted positions;  
20 an annular and plate-like flange which closes off said uppermost end of said cartridge, said flange having an inner terminal periphery disposed in surrounding relation with said pylon which defines an opening to permit movement of said pylon between said extended and  
25 retracted positions, said opening having a diameter which is substantially greater than an outer diameter of said pylon such that a gap is defined therebetween; and  
a flexible annular seal member mounted on said inner periphery and extending inwardly therebeyond a  
30 substantial distance so as to traverse said gap and maintain contact with an outer surface of said pylon during movement thereof between said extended and retracted positions.

35 13. The arrangement of Claim 12 wherein said flange is a first flange and said cartridge includes a second

annular plate-like flange spaced vertically downwardly from a lower surface of said first flange to define a space therebetween, said seal member including a pair of annular seals which are sandwiched between said first and second flanges in vertically stacked relation with one another within said space.

14. The arrangement of Claim 12 wherein said inner periphery of said flange has a straight configuration when viewed in transverse cross-section, and said seal member is mounted on a lower surface of said flange so as to project generally sidewardly beyond said inner periphery and toward said pylon for contact therewith at substantially all times to prevent water and debris from entering said housing through said opening.

15. The arrangement of Claim 12 wherein said gap defined between said flange and said pylon compensates for angular or axial misalignments between said pylon and said flange.

16. A pylon arrangement for controlling vehicular traffic, said arrangement comprising:  
an elongate and generally hollow housing structure fixed within the ground in a generally upright manner;  
an elongate pylon defining a generally hollow interior and being mounted for movement into said housing structure into a retracted storage position and for movement out of said housing structure into an extended position for controlling traffic, an upper terminal end of said pylon being substantially flush with the surface of the ground when in said retracted position; and  
a heating unit disposed within said hollow interior of said pylon which when energized provides heat therewithin to effectively heat an outer wall of said

pylon and prevent seizure of said pylon due to ice build-up at least adjacent the ground surface.

17. The arrangement of Claim 16 wherein said  
5 heating unit is mounted within said hollow interior of said pylon a short vertical distance beneath the ground surface.

18. The arrangement of Claim 16 including a drive  
10 mechanism for moving said pylon between said extended and retracted positions and including a rotatable drive shaft, said pylon being movable relative to said drive shaft in a telescoping manner and when in said retracted position, said drive shaft is disposed generally  
15 coaxially within said hollow interior and an upper end of said drive shaft is disposed adjacent an upper end of said pylon, said arrangement further including an annular plate-like cover disposed on an upper end of said housing structure and oriented in substantially flush relation  
20 with the ground surface, said pylon passing through an opening defined within said cover during movement between said extended and retracted positions, and said heating unit is mounted generally adjacent an upper end of said drive shaft to minimize ice formation adjacent said  
25 cover.

19. The arrangement of Claim 18 wherein said drive shaft has a smooth outer surface and is oriented in a generally upright manner within said housing structure,  
30 said drive mechanism further including an actuator engaged with said smooth outer surface of said drive shaft and non-movably fixed to said pylon, wherein upon rotation of said drive shaft said actuator converts the rotary motion thereof into linear motion and translates  
35 upwardly or downwardly relative thereto to move said post into either said extended or retracted position.

20. The arrangement of Claim 19 wherein said drive mechanism further includes an electric motor mounted within said housing structure which when actuated rotates  
5 said drive shaft, and said actuator includes a pair of block-halves which clampingly engage said drive shaft therebetween, said block-halves being positionally adjustable relative to one another to adjust the clamping force on said drive shaft.

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